

## **REMARKS**

### **FORMAL MATTERS:**

Claims 40 and 42-52 are pending after entry of the amendments set forth herein.

Claims 1-38 and 41 are canceled without prejudice.

Claim 40 is amended to correct a clerical error.

New claims 47-52 have been added. New claim 47 is supported in claim 40 but changed to indicate that the active ingredient “consists essentially of” the antidepressant. New claims 48-52 include the same language as in current claims 42-46 except that they are dependent on new claim 47.

No new matter is added.

### **REJECTIONS UNDER §103(A)**

Claims 40, 42 and 44-46 were rejected under 35 U.S.C. §103 as unpatentable over Ni et al. in view of Chen et al. and further in view of Daines.

Claim 43 was rejected under 35 U.S.C. §103 as unpatentable over Ni et al. in view of Chen et al. and further in view of Daines and still further in view of Bilgi et al.

Both of the rejections are traversed as applied and as they might be applied to the presently pending claims.

### **RESPONSE IN GENERAL**

The cited art does not teach the basic concept of treating cystic fibrosis by administering an antidepressant by inhalation. Accordingly, claims 40 and 42-46 are patentable over the cited references. With respect to new claim 47 the claim specifically excludes additional active ingredients and the Ni et al. reference requires the combination of the active ingredient of Formula I with an additional active ingredient in order to be even remotely related to applicant’s invention. Thus, new claims 47-52 are still further distinguishable from the cited references.

To the extent a specific description of each of the references and distinguishing features between them and the claimed invention is required such is provided below. In the event the Examiner finds these arguments are not persuasive the undersigned attorney respectfully requests that the Examiner contact the undersigned attorney at the indicated telephone number to arrange for an interview to expedite disposition of this application.

**Ni et al.**

The primary reference in both rejections is the Ni et al. reference. Applicant recognizes that Ni et al. refers to tricyclic antidepressants at col. 47, line 39. The reference to tricyclic antidepressants is within a huge list of hundreds of other compounds within Ni et al. which Ni et al. indicates **could be used in combination with the main active ingredient of formula (I)** wherein the (I) is defined within Ni et al.

The newly added claim 47 indicates that the active ingredient “consists essentially of” an antidepressant. Accordingly, new claim 47 is further distinguishable from Ni et al. in that claim 47 does not allow for the combination of an antidepressant with the compound of formula (I) taught within Ni et al. Thus, new claims 48-52 are also allowable over Ni et al.

Notwithstanding this position independent claim 40 is distinguishable over Ni et al. as taken alone or in combination with the other references for a number of reasons described here. Ni et al. does not include an indication that VCAM-1 actually plays a role in cystic fibrosis. Further, there is no data within Ni et al. showing that an antidepressant actually mediates a VCAM-1 disorder. Because there is no showing that VCAM-1 actually plays a role in cystic fibrosis or that antidepressant compounds mediate VCAM-1 disorders the Ni et al. reference does not teach the invention of independent claim 40.

Ni et al. is directed to treating diseases which are mediated by VCAM-1. However, Ni et al. does not show that VCAM-1 plays a role in cystic fibrosis. Further, Ni et al. does not show that antidepressant compounds mediate VCAM-1 disorders. Thus, there would be no reason for one skilled in the art reading Ni et al. to have an expectation that antidepressant compounds of any type would be useful in the treatment of cystic fibrosis. In short, Ni et al. does nothing more than list antidepressant compounds in a very long list of other compounds while also listing cystic fibrosis as a disease that might be treated. If the rejection is to be maintained applicant respectfully requests the rejection explain how the reference might be used by one of ordinary skill in the art to teach applicant’s invention. Ni et al. is not an enabling disclosure of using antidepressant to treat any disease and particularly not to treat cystic fibrosis by inhalation.

**Ni et al. do not disclose** administering any compounds by **inhalation** and as such are distinguishable from the present invention which claims administration by inhalation. More importantly, Ni et al. merely mention tricyclic **antidepressants** within a huge list of other compounds as

**possible additional ingredients to be used in combination** with the compound they are suggesting be used in treating disorders which are mediated by VCAM-1.

Both rejections are based on the disclosure which begins in Ni et al. at col. 44, line 56 which indicates that the (1) compounds of formula (I) may be used to inhibit expression of VCAM-1 mediated disorders which include cystic fibrosis, which could also be administered in combination with (2) other compounds. Beginning at this point in Ni et al. at around col. 44, line 56 and continuing through col. 51, line 17 the Ni et al. patent lists hundreds of other compounds which might be used in combination with the main compounds of formula (I) which Ni et al. are actually teaching. Applicants understand that Ni et al. at col. 47, line 39 refers to tricyclic antidepressants. However, **nothing within the Ni et al. disclosure suggest the tricyclic antidepressants might actually treat cystic fibrosis** and one skilled in the art reading this disclosure would not be led towards the use of such tricyclic antidepressants to treat cystic fibrosis. The Ni et al. reference contains the vaguest possible suggestion that a tricyclic antidepressant might be used in combination with compounds of formula (I) in order to treat a disease which is mediated by VCAM-1. However, Ni et al. make no showing that cystic fibrosis is mediated by VCAM-1. Accordingly, Ni et al. does not contain an enabling disclosure which renders the present invention obvious within the meaning of 35 U.S.C. §103.

#### **Chen et al.**

In further support of the rejection it is argued that Chen et al. could be combined with Ni et al. because Chen discloses the tricyclic antidepressants include the two compounds which are specifically recited within dependent claim 44. However, Chen et al. is not directed to the treatment of cystic fibrosis or inhalation of antidepressants. Further, Chen et al. is completely unrelated to Ni et al. and not combinable within the meaning of 35 U.S.C. §103.

Applicant is not taking the position that the specific compounds recited in dependent claim 44 or new dependent claim 50 are, themselves, new compounds. Applicant's invention involves a method of treatment and specifically a method of treating cystic fibrosis. Chen et al. is not directed to a method of treating cystic fibrosis and not directed to a method of inhaling antidepressants. Thus, it is applicant's position that even if Chen et al. is combined with Ni et al. there is no teaching of applicant's invention.

**Daines et al.**

Both rejections further cite Daines which teaches the use of leukotriene agonists in order to treat diseases such as cystic fibrosis which compounds might be administered by inhalation. However, **leukotriene agonists are completely different types of compounds from those disclosed within either Ni et al. or Chen et al. and are also completely different from the antidepressant compounds taught by applicant.** Thus, there would be no reason for combining the Daines reference with either Ni et al. or Chen et al. to obtain applicant's invention.

Applicant is not taking the position that no compounds have ever been used to treat cystic fibrosis. However, citing art which discloses completely different types of compounds than those claimed by applicant as possibly being useful to treat cystic fibrosis is not a teaching of applicant's invention. Again, if the rejection is not withdrawn applicant respectfully requests an explanation with respect to how the Daines et al. disclosure of a completely unrelated compound is useful in teaching applicant's invention.

**Bilgi et al. Alone and with Ni et al.**

The last rejection is a rejection of claim 43 which cites the three references discussed above in combination with Bilgi et al. The rejection argues the interchangeability of tricyclic antidepressants and tetracyclic antidepressants. The Bilgi et al. reference contains no teachings with respect to the use of antidepressants to treat cystic fibrosis. Further, Bilgi et al. does not teach the administration of such compounds by inhalation. The interchangeability of tricyclic and tetracyclic antidepressants is substantially irrelevant to applicant's invention. The four references do not teach using antidepressants to treat cystic fibrosis by inhalation. In view of such the rejection should be reconsidered and withdrawn.

Applicant understands that Ni et al. is a reference which describes the inhibition of VCAM-1. However, there is no indication that VCAM-1 actually plays a role in cystic fibrosis. Further, there is no data that any antidepressant compounds mediate VCAM-1 disorders. The Ni et al. disclosure focuses entirely on compounds of structural formula (I) and then refer to the possibility of using the compounds of formula (I) in combination with any other pharmaceutically active drug in the list of hundreds. Because the literature and Ni et al. does not provide any link between VCAM-1 and cystic fibrosis the

basis of the rejection should be reconsidered and withdrawn. Still further, the rejection should be withdrawn because it does not show a relationship between a VCAM-1 and the treatment of cystic fibrosis with antidepressants.

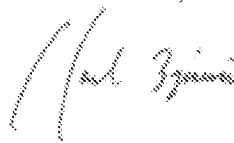
### CONCLUSION

Claim 40 was amended to correct a clerical error. The 35 U.S.C. §103 rejection should be reconsidered and withdrawn in that the primary reference to Ni et al. relates to the inhibition of the VCAM-1 and does not show how the inhibition of VCAM-1 would be useful in the treatment of cystic fibrosis. The mere mention of antidepressants in the disclosure is not sufficient to suggest that any compounds would be useful in the treatment of a cystic fibrosis patient by the inhalation let alone that antidepressants could be used to treat cystic fibrosis. In view of such reconsideration and withdrawal of such is respectfully requested.

Applicant submits that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number AERX-134.

Respectfully submitted,  
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Date: 4 February 2010

By: \_\_\_\_\_

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